

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended): In a method of papermaking in which an antifoam and/or a deaerator is used, the improvement comprising using as said antifoam and/or deaerator, an ~~An~~ antifoam and/or deaerator comprising an oil-in-water dispersion which contains, in the dispersed hydrophobic phase, at least one compound effective as an antifoam and/or deaerator and, if required, further components, wherein the hydrophobic phase contains 3-thiaalkan-1-ols, 3-thiaoxoalkan-1-ols, 3-thiadioxoalkan-1-ols, esters of said compounds or mixtures thereof as compounds having an antifoam and/or deaerating effect.

Claim 2 (Currently Amended): ~~An antifoam and/or deaerator~~ The method as claimed in claim 1, wherein the hydrophobic phase contains

- (a) 3-thiaalkan-1-ols, 3-thiaoxoalkan-1-ols,
3-thiadioxoalkan-1-ols, esters of said compounds or mixtures thereof and
- (b) at least one compound from the group consisting of the glyceryl esters of fatty acids having at least 10 carbon atoms in the molecule, C₁₂- to C₃₀-alcohols, alkoxyated alcohols, esters of sugar alcohols having at least 4 OH groups or at least 2 OH groups and at least one intramolecular ether bond and of a fatty acid having at least 20 carbon atoms in the molecule, fatty esters of C₁₂- to C₂₂-carboxylic acids with monohydric to trihydric alcohols, ketones having melting points above 45°C, the polyglyceryl esters which are obtainable by at least 20% esterification of polyglyceryl esters which have at least 2 glycerol units with at least one C₁₂- to C₃₆ fatty acid, reaction products of mono- and diglycerides with dicarboxylic acids, reaction products of glycerol with dicarboxylic acids, which reaction products are esterified with at least one C₁₂- to C₃₆-fatty acid, polyethylene waxes, natural waxes,

hydrocarbons having boiling points above 200°C, finely divided inert solids and mixtures of said compounds.

Claim 3 (Currently Amended): ~~An antifoam and/or deaerator~~ The method as claimed in claim 1, wherein the hydrophobic phase contains

(a) 3-thiaalkan-1-ols, 3-thiaoxoalkan-1-ols, 3-thiadioxoalkan-1-ols, carboxylic esters of said compounds or mixtures thereof,

(b1) polyglyceryl esters which are obtainable by at least 20% esterification of polyglycerols which have at least 2 glycerol units with at least one C₁₂- to C₃₆- fatty acid and

(b2) glyceryl esters of fatty acids having at least 10 carbon atoms in the molecule, C₁₂- to C₃₀-alcohols, alkoxyated alcohols, esters of sugar alcohols having at least 4 OH groups or at least 2 OH groups and at least one intramolecular ether bond and of a fatty acid having at least 20 carbon atoms in the molecule, fatty esters of C₁₂- to C₂₂-carboxylic acids with monohydric to trihydric alcohols, ketones having melting points above 45°C, reaction products of mono- and diglycerides with dicarboxylic acids, reaction products of glycerol with dicarboxylic acids, which reaction products are esterified with at least one C₁₂- to C₃₆- fatty acid, polyethylene waxes, natural waxes, hydrocarbons having boiling points above 200°C, finely divided inert solids and mixtures of said compounds.

Claim 4 (Currently Amended): ~~An antifoam and/or deaerator~~ The method as claimed in claim 1, wherein the antifoam and/or deaerator ~~which~~ contains nonionic, anionic, amphoteric and/or cationic emulsifiers as stabilizer.

Claim 5 (Currently Amended): ~~An antifoam and/or deaerator~~ The method as claimed in claim 1, wherein the antifoam and/or deaerator ~~which~~ contains from 0.1 to 3% by weight

of a water-soluble, amphiphilic copolymer having acid groups and/or of a water-soluble salt thereof as a stabilizer.

Claim 6 (Currently Amended): ~~An antifoam and/or deaerator~~ The method as claimed in claim 1, wherein the antifoam and/or deaerator ~~which~~ additionally contains, as a stabilizer, from 0.1 to 3% by weight, based on the oil-in-water dispersions, of at least one

- polymer of monoethylenically unsaturated acids having molar masses of from 1500 to 300,000,

- graft copolymer of from 5 to 40 parts by weight of N-vinylformamide per 100 parts by weight of a polyalkylene glycol having a molar mass of from 500 to 10,000,

- zwitterionic polyalkylene polyamine,

- zwitterionic polyethyleneimine,

- zwitterionic polyetherpolyamine or

- zwitterionic crosslinked polyalkylenepolyamine.

Claim 7 (Currently Amended): ~~An antifoam and/or deaerator~~ The method as claimed in claim 1, wherein the antifoam and/or deaerator ~~which~~ additionally contains, as a stabilizer, homopolymers of acrylic acid, homopolymers of methacrylic acid, copolymers of acrylic acid and methacrylic acid, copolymers of acrylic acid and maleic acid, copolymers of methacrylic acid and maleic acid, polyvinylsulfonic acid, polyacrylamido-2-methylpropane-sulfonic acid or their alkali metal and ammonium salts having molar masses of from 1500 to 300,000.

Claim 8 (Currently Amended): ~~An antifoam and/or deaerator~~ The method as claimed in claim 1, wherein the hydrophobic phase contains from 1 to 100% by weight of a 3-

thiaalkan-1-ol, of a 3- thiaoxoalkan-1-ol, of a 3-thiadioxoalkan-1-ol, of esters of said compounds with C₁- to C₃₀-carboxylic acids or of mixtures thereof.

Claim 9 (Currently Amended): ~~An antifoam and/or deaerator~~ The method as claimed in claim 1, wherein the hydrophobic phase contains from 5 to 75% by weight of a 3-thia-C₁₆ to C₃₀-alkan-1-ol, of a 3- thiaoxo-C₁₆ to C₃₀-alkan-1-ol, of a 3-thiadioxo-C₁₆- to C₃₀-alkan-1-ol, of esters of said compounds with C₁- to C₃₀-carboxylic acids or of mixtures thereof.

Claim 10 (Currently Amended): ~~An antifoam and/or deaerator~~ The method as claimed in claim 1, wherein the hydrophobic phase contains from 5 to 70% by weight of a 3-thia-C₁₈- to C₂₈-alkan-1-ol.

Claims 11-16 (Canceled).

Claim 17 (Currently Amended): An oil-in-water dispersion which contains, in the dispersed hydrophobic phase,

(a) at least one compound selected from the group consisting of a 3-thiaalkan-1-ol, a 3-thiaoxoalkan-1-ol, a 3-thiadioxoalkan-1-ol, and esters of said compounds,

(b1) polyglyceryl esters which are obtainable by at least 20% esterification of polyglycerols which have at least 2 glycerol units with at least one C₁₂- to C₃₆- fatty acid and

(b2) glyceryl esters of fatty acids having at least 10 carbon atoms in the molecule, C₁₂- to C₃₀-alcohols, alkoxyated alcohols, esters of sugar alcohols having at least 4 OH groups or at least 2 OH groups and at least one intramolecular ether bond and of a fatty acid having at least 20 carbon atoms in the molecule, fatty esters of C₁₂- to C₂₂-carboxylic acids with monohydric to trihydric alcohols, ketones having melting points above 45°C, reaction

products of mono- and diglycerides with dicarboxylic acids, reaction products of glycerol with dicarboxylic acids, which reaction products are esterified with at least one C₁₂- to C₃₆- fatty acid, polyethylene waxes, natural waxes, hydrocarbons having boiling points above 200°C, finely divided inert solids and mixtures of said compounds.

Claim 18 (Previously Presented): A method of controlling foam in an aqueous medium having a tendency to foam formation, comprising adding the oil-in-water dispersion as claimed in claim 17 to the aqueous medium in antifoam and/or deaerating amounts.

Claim 19 (Previously Presented): The method as claimed in claim 18, wherein the aqueous medium is a papermaking medium.

Claim 20 (Previously Presented): The method as claimed in claim 19, wherein the aqueous medium is at a temperature above 40°C.

Claim 21 (Previously Presented): An aqueous medium having a tendency to foam formation, comprising the oil-in-water dispersion as claimed in claim 17 contained therein in antifoam and/or deaerating amounts.

Claim 22 (New): An antifoam and/or deaerator comprising an oil-in-water dispersion which contains, in the dispersed hydrophobic phase, at least one of each of the following (a), (b1) and (b2):

(a) 3-thiaalkan-1-ols, 3-thiaoxoalkan-1-ols, 3-thiadioxoalkan-1-ols, carboxylic esters of said compounds or mixtures thereof,

(b1) polyglyceryl esters which are obtainable by at least 20% esterification of polyglycerols which have at least 2 glycerol units with at least one C₁₂- to C₃₆- fatty acid and

(b2) glyceryl esters of fatty acids having at least 10 carbon atoms in the molecule, C₁₂- to C₃₀-alcohols, alkoxylated alcohols, esters of sugar alcohols having at least 4 OH groups or at least 2 OH groups and at least one intramolecular ether bond and of a fatty acid having at least 20 carbon atoms in the molecule, fatty esters of C₁₂- to C₂₂-carboxylic acids with monohydric to trihydric alcohols, ketones having melting points above 45°C, reaction products of mono- and diglycerides with dicarboxylic acids, reaction products of glycerol with dicarboxylic acids, which reaction products are esterified with at least one C₁₂- to C₃₆- fatty acid, polyethylene waxes, natural waxes, hydrocarbons having boiling points above 200°C, finely divided inert solids and mixtures of said compounds.

Claim 23 (New): An antifoam and/or deaerator as claimed in claim 22, which contains nonionic, anionic, amphoteric and/or cationic emulsifiers as stabilizer.

Claim 24 (New): An antifoam and/or deaerator as claimed in claim 22, which contains from 0.1 to 3% by weight of a water-soluble, amphiphilic copolymer having acid groups and/or of a water-soluble salt thereof as a stabilizer.

Claim 25 (New): An antifoam and/or deaerator as claimed in claim 22, which additionally contains, as a stabilizer, from 0.1 to 3% by weight, based on the oil-in-water dispersions, of at least one

- polymer of monoethylenically unsaturated acids having molar masses of from 1500 to 300,000,

- graft copolymer of from 5 to 40 parts by weight of N-vinylformamide per 100 parts by weight of a polyalkylene glycol having a molar mass of from 500 to 10,000,
- zwitterionic polyalkylene polyamine,
- zwitterionic polyethyleneimine,
- zwitterionic polyetherpolyamine or
- zwitterionic crosslinked polyalkylenepolyamine.

Claim 26 (New): An antifoam and/or deaerator as claimed in claim 22, which additionally contains, as a stabilizer, homopolymers of acrylic acid, homopolymers of methacrylic acid, copolymers of acrylic acid and methacrylic acid, copolymers of acrylic acid and maleic acid, copolymers of methacrylic acid and maleic acid, polyvinylsulfonic acid, polyacrylamido-2-methylpropane-sulfonic acid or their alkali metal and ammonium salts having molar masses of from 1500 to 300,000.

Claim 27 (New): An antifoam and/or deaerator as claimed in claim 22, wherein the hydrophobic phase contains from 1 to 100% by weight of a 3-thiaalkan-1-ol, of a 3-thiaoxoalkan-1-ol, of a 3-thiadioxoalkan-1-ol, of esters of said compounds with C₁- to C₃₀-carboxylic acids or of mixtures thereof.

Claim 28 (New): An antifoam and/or deaerator as claimed in claim 22, wherein the hydrophobic phase contains from 5 to 75% by weight of a 3-thia-C₁₆ to C₃₀-alkan-1-ol, of a 3-thiaoxo-C₁₆ to C₃₀-alkan-1-ol, of a 3-thiadioxo-C₁₆ to C₃₀-alkan-1-ol, of esters of said compounds with C₁- to C₃₀-carboxylic acids or of mixtures thereof.

Claim 29 (New): An antifoam and/or deaerator as claimed in claim 22, wherein the hydrophobic phase contains from 5 to 70% by weight of a 3-thia-C₁₈- to C₂₈-alkan-1-ol.

Claim 30 (New): A method of controlling foam in an aqueous medium having a tendency to foam formation, comprising adding an oil-in-water dispersion to the aqueous medium in antifoam and/or deaerating amounts,

wherein the oil-in-water dispersion contains, in the dispersed hydrophobic phase, at least one compound selected from the group consisting of a 3-thiaalkan-1-ol, a 3-thiaoxoalkan-1-ol, a 3-thiadioxoalkan-1-ol, and esters of said compounds, and

wherein the aqueous medium is a papermaking medium.

DISCUSSION OF THE AMENDMENT

Claims 1-10 have been amended to claim a method of papermaking in Jepson format, as supported in the specification at, for example, page 18, line 20, and the examples. Claim 17 has been amended by incorporating the subject matter of Claim 3 therein. New Claims 22-30 have been added. Claim 22 corresponds to Claim 3, prior to the above amendment. Claims 23-29 correspond to Claims 4-10, prior to the above amendment, except that they depend on Claim 22. Finally, Claim 30 corresponds to Claim 19, prior to the above amendment.

No new matter is believed to have been added by the above amendment. Claims 1-10 and 17-30 are now pending in the application.